

REMARKS

Reconsideration of this application, as presently amended, is respectfully requested. Claims 1-15 are pending in this application. Claims 1-4 and 12-15 stand rejected. Claims 5-11 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 U.S.C. §102

Claims 1-4 and 12-15 were rejected under 35 U.S.C. §102(a) as being anticipated by **Bruning** (USP 6,339,314, previously cited). For the reasons set forth in detail below, this rejection is respectfully traversed.

Initially, it is noted that the rejection under §102 set forth on page 2 of the current Office Action repeats verbatim the rejection set forth in the previous Office Action. Therefore, the patentability arguments below address the Examiner's ***Response to Arguments*** set forth on page 3 of the current Office Action.

Claims 1 and 3

As will be set forth in detail below, it is respectfully submitted that claims 1 and 3 recite at least the following features that are patentable over the **Bruning** reference: (1) "*starting a power supply to the transformer when an external voltage is applied to the output side of the current-to-voltage conversion circuit*" (**claim 1**); and (2) "*a second circuit to start a power*

supply to the transformer and put the current-to-voltage conversion circuit into an active state when an external voltage is applied to the output section” (claim 3).

In the *Response to Arguments*, the Examiner asserts:

“Applicant argues that **Bruning** reference does not disclose or suggest [a] starting a power supply to the transformer when an external voltage is applied to the output side of the current-to-voltage conversion circuit, see col. 1, line 67 to col. 2, line 2, a threshold detector is coupled to the triggerable electronic switch [to] trigger the triggerable electronic switch when the voltage of the threshold detector reaches a predetermined value (*i.e. an external voltage is applied to the conversion circuit*).” See Office Action, page 3, lines 7-12.

First, it is respectfully submitted that the Examiner’s *Response to Arguments* does not take into account that the claimed “starting a power supply to the transformer” occurs “*when an external voltage* is applied to the *output side* of the current-to-voltage conversion device.” More specifically, the portion of the **Bruning** reference cited by the Examiner in the *Response to Arguments* relates to a triggerable electronic switch 22 that, when triggered, allows current to be supplied to the primary winding 40 of transformer 20 via power supplied to input terminals 12, 14. In other words, the portion of **Bruning** cited by the Examiner teaches supplying power to the transformer 20 when *external power* is supplied to *the input side* of the transformer.

More specifically, **Bruning** discloses a triggerable electronic switch 22 that controls current supplied to transformer 20 based on whether the triggerable electronic switch is in an ON or OFF state (see col. 3, lines 46-53). The triggerable electronic switch 22 includes a triac 46 that is triggered by a triggering circuit 28. The triggering circuit 28 includes, among other components, a capacitive element 60 and a *threshold* device 58. The capacitive element 60

charges *when power is supplied to the input terminals* 12, 14. Once the voltage of the capacitive element 60 reaches a predetermined value, the threshold device 58 turns ON or conducts. The threshold device 58 controls triggering of the triac 46 of triggerable electronic switch 22 to supply current to the primary winding 40 of transformer 20. See, e.g., col. 4, lines 8-46.

Thus, it is clear that the threshold detector and triggerable electronic switch described in col. 1, line 67 – col. 2, line 2 of **Bruning** control power supplied to the primary winding 40 of transformer 20 when an external voltage is applied to the input terminals 12, 14. Contrary to the present invention, **Bruning** do not disclose or suggest “*starting a power supply to the transformer when an external voltage is applied to the output side of the current-to-voltage conversion circuit*”, as recited in claim 1 (and similarly in claim 3).

Claims 12 and 13

As will be discussed in detail below, it is respectfully submitted that claims 12 and 13 recite at least the following features that are patentable over the **Bruning** reference: (1) “*said current-to-voltage conversion circuit assuming ...an active state when an external voltage is applied to the output side, said electronic apparatus comprising: a switching circuit to apply the external voltage to the output side of the current-to-voltage conversion circuit in the deactivated state*” (**claim 12**), and (2) “*a second circuit to start a power supply to the transformer and put the current-to-voltage conversion circuit into an active state when an external voltage is applied*

to the output section; and a control section to apply the external voltage to the output section of the current-to-voltage conversion circuit in the deactivated state” (claim 13).

On page 11, lines 3-5 of the Amendment filed on February 10, 2006, it was argued “With respect to independent claims 12 and 13, **Bruning** does not disclose or suggest applying an external voltage to the output side of the current-to-voltage conversion circuit in the deactivated state to control the output side to the active state.” However, the Examiner has not addressed these patentability arguments in the *Response to Arguments*.

As indicated above, **Bruning** does not disclose or suggest a system wherein an *external voltage* applied to the *output side or output section* of the current-to-voltage conversion circuit to activate the current-to-voltage conversion circuit. More particularly, in order to restart the power supply to the transformer in **Bruning**, it is necessary to continue supplying power to the load because the restart is made by the load current. However, in accordance with the present invention, it is simply necessary to apply the external voltage to the output side of the current-to-voltage conversion circuit in order to restart the power supply to the transformer, and a more stable start procedure can be realized.

Claims 14 and 15

Claims 14 and 15 have been amended to clarify that the load is detected by detecting a state of the output side of the current-to-voltage conversion circuit.

However, in accordance with the present invention, the load is detected by detecting current in the secondary side circuit of the transformer (i.e., the output side). In contrast, the

Bruning device detects current in the primary winding of the transformer to detect a no-load state. Therefore, it is respectfully submitted that **Bruning** do not disclose or suggest “stopping a power supply to the transformer when the output side of the current-to-voltage conversion circuit is in the no-load state or the light-load state, wherein the no-load state or light-load state is detected by detecting a state of the output side of the current-to-voltage conversion circuit”, as presently recited in claim 14 (and similarly in claim 15). As noted above, the **Bruning** device detects current in the primary winding, or input side, of the transformer to detect a no-load state.

For all of the reasons set forth above, it is respectfully submitted that each of claims 1-4 and 12-15 patentably distinguish over the cited prior art and define allowable subject matter. Accordingly, reconsideration and withdrawal of the rejection under §102 are respectfully requested.

CONCLUSION

In view of the foregoing amendments and accompanying remarks, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

Application No. 10/715,390
Art Unit: 2838

Amendment under 37 C.F.R. §1.116
Attorney Docket No.: 032116

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

A handwritten signature in black ink, appearing to read "William M. Schertler". The signature is fluid and cursive, with the first name "William" and last name "Schertler" being clearly legible, and "M." in the middle.

William M. Schertler
Attorney for Applicants
Registration No. 35,348
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

WMS/dlt